

**CS/Math 278**  
**Lab12**  
**Due on Wednesday 12-02-2009 online by 5:00 PM**

Write a Java program that will compare the running time for the programs you wrote for task 2.17 and the one for task 3.21. Using your program calculate the running time for both programs on at least 10 different execution runs with different inputs. Record your results and answer the following questions:

1. Which of the algorithms runs faster for large inputs?
2. Estimate how many steps each of your algorithms take for computing  $\text{gcd}(x,y)$ . Use your estimates to explain your answer to question 1.

Submit your results and answers together with your code.

See Resources for an example on "[Timing Java program](#)". If you get 0 as a result for the running time you need to get your whole program in a loop and then divide your result by the length of the loop.

NOTE : If you have the same program code for both tasks, please write a different one for task 2.17 so that you can see the difference in the running time.